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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,071	09/17/2003	Sami Poykko	59643.00174	3237

32294 7590 06/20/2005

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EXAMINER	
VU, MICHAEL T	

ART UNIT	PAPER NUMBER
2683	

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,071	POYKKO ET AL.	
	Examiner	Art Unit	
	Michael Vu	2683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-20 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 17 September 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 07/20/04.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderspool (US 6,108,558) in view of Riley (US 2003/0125046). Hereafter Vanderspool and Riley.

Regarding **claim 1**, Vanderspool teaches a method of providing information regarding a location of a mobile user of a communication system (C1, L25), the method comprising: performing measurements for provision of input data for a location calculation function (C1, L41-44), but **fails to teach** to analyzing the measurements to identify suspicious measurements (Fig. #8 and #9, [0065] of Riley); deciding selected measurements for use by the location calculation

function (Fig. #8 and #9, [0013], [0015] of Riley); and calculating a location estimate for a mobile user based on the selected measurements (Fig. #8 and #9, [0071] of Riley). However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation –processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that to analyzing the measurements to identify suspicious measurements deciding selected measurements for use by the location calculation function and calculating a location estimate for a mobile user based on the selected measurements, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements.

Regarding **claim 2**, the combination of Vanderspool and Riley teach in claim 1. Vanderspool **fails to teach** wherein the step of analyzing further comprises analyzing a discrepancy between the selected measurements and the location estimate. However, Riley further teaches the network computes the distance between the MS to BS from know positions, which compare the distance to the pseudorange measurement. If the distance is inconsistent with the measurement or error estimates of the distance, then execution branches record the erroneous. If a number of such inconsistencies are recorded, the

execution continues to record the error in a log (Fig. #9 / inconsistent, element 122, [0083] the examiner broadly interprets as analyzing discrepancy).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that wherein the step of analyzing further comprises analyzing a discrepancy between the selected measurements and the location estimate, to significantly improve the accuracy of the cellular location method.

Regarding **claim 3**, Vanderspool teaches a communication system comprising (Fig. #1): a measuring device configured to perform measurements for provision of input data for a location calculation function (C1, L41-44); but **fails to teach** an analyzer configured to analyze the measurements to identify suspicious measurements (Fig. #8 and 9, [0065]); a deciding unit configured to decide selected measurements for use by the location calculation function Fig. #8 and, [0013], [0015]; and a calculating device configured to calculate a location estimate for a mobile user based on the selected measurements (Fig. #8 and 9, [0071]). However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation – processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that to analyzing the measurements to identify suspicious measurements deciding selected

measurements for use by the location calculation function and calculating a location estimate for a mobile user based on the selected measurements, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements.

Regarding **claim 4**, the combination of Vanderspool and Riley teach in claim 3. Vanderspool **fails to teach** wherein the analyzer analyzes a discrepancy between the selected measurements and the location estimate. However, Riley further teaches the network computes the distance between the MS to BS from know positions, which compare the distance to the pseudorange measurement. If the distance is inconsistent with the measurement or error estimates of the distance, then execution branches record the erroneous. If a number of such inconsistencies are recorded, the execution continues to record the error in a log (Fig. #9 / inconsistent, element 122, [0083] the examiner broadly interprets as analyzing discrepancy).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that wherein the step of analyzing further comprises analyzing a discrepancy between the selected measurements and the location estimate, to significantly improve the accuracy of the cellular location method.

Regarding **claim 5**, Vanderspool teaches a communication system comprising Fig. #1): measuring means for performing measurements for provision of input data for a location calculation function (C1, L41-44); but **fails to teach** analyzing

means for analyzing the measurements to identify suspicious measurements (Fig. #8 and #9, [0065]; deciding means for deciding selected measurements for use by the location calculation function (Fig. #8 and #9, [1103-0015]; and calculating means for calculating a location estimate for a mobile user based on the selected measurements (Fig. #8 and #9, [0071]). However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation –processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that to analyzing the measurements to identify suspicious measurements deciding selected measurements for use by the location calculation function and calculating a location estimate for a mobile user based on the selected measurements, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements..

Regarding **claim 7**, Vanderspool teaches a location system (Fig. #1, C1, L15-66 teaches mobile/ cellular location finding methods (ie. TDOA, TOA, OTD, RTD, GPS comprising: a controller configured to control at least one base stations (Mobile Location Center (MLC)); a location service node configured to provide a client application with a measurement regarding geographic location information

of at least one mobile station (MLC, element 111); an interface configured to receive the measurement regarding the geographic location information of the at least one mobile station and to transmit the measurement regarding the geographic location information to a location device (Fig. #1, C4, L6-15); the location device configured to determine a location estimate based upon the measurement regarding the geographic location (Abstract, C2, L35-41); but **fails to teach** a suspicious measurement identifier configured to identify suspicious measurements by analyzing a discrepancy between the measurement and the location estimate. However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation –processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that a suspicious measurement identifier configured to identify suspicious measurements by analyzing a discrepancy between the measurement and the location estimate, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements.

Regarding **claim 8**, Vanderspool teaches in claim 7, he further teaches wherein the location service node provides location services for a plurality of

client applications (Fig. #1, element 111, Mobile Location Center (MLC) / Location Service Node (LSN)).

Regarding **claim 9**, Vanderspool teaches in claim 7, he further teaches wherein the interface comprises a gateway mobile location center (Fig. #1, element 111, MLC / acting as a gateway).

Regarding **claim 10**, the combination of Vanderspool and Riley teach in claim 7, but Riley further teaches wherein the location estimate is based upon a measurement regarding a position of the at least one mobile station relative to the at least one base station (Fig. #9, [0083] of Riley).

Regarding **claim 11**, the combination of Vanderspool and Riley teach in claim 7, but Riley further teaches wherein the location device comprises the suspicious measurement identifier (Fig. #9, [0083] of Riley).

Regarding **claim 12**, Vanderspool teaches a method for providing location information to a user in a communication system (Fig. #3), the method comprising: controlling at least one base station (Fig. #3, element 309 / MLC); providing a client application with a measurement regarding geographic location information of at least one mobile station (Fig. #3, C4, L6-15); receiving the measurement of the geographic location information of the at least one mobile station; transmitting the measurement of the geographic location information to a location means for providing location services (Fig. #3, C1,L23-26); determining a location estimate based upon the measurement regarding the geographic location (Fig. #3, C2, L43-46); but Vanderspool **fails to teach** to identifying

suspicious measurements by analyzing a discrepancy between the measurement and the location estimate. However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation –processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that a suspicious measurement identifier configured to identify suspicious measurements by analyzing a discrepancy between the measurement and the location estimate, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements.

Regarding **claim 13**, the combination of Vanderspool and Riley teach in claim 12, Vanderspool further teaches comprising a step of providing location services for a plurality of client applications (C2, 60-64 of Vanderspool).

Regading **claim 14**, the combination of Vanderspool and Riley teach in claim 12, Vanderspool further teaches comprising a step of providing a gateway mobile location center for providing said client application (C2, 29-34 / MLC=LSN=Gateway).

Regarding **claim 15**, the combination of Vanderspool and Riley teach in claim 12, Vanderspool further teaches the step of determining further comprising

a step of calculating the location estimate based upon a measurement regarding a position of the at least one mobile station relative to the at least one base station (C2, 39-46 of Vanderspool).

Regarding **claim 16**, the combination of Vanderspool and Riley teach in claim 12, Riley further teaches comprising a step of providing a location device for identifying the suspicious measurements (Fig. #9, [0083] of Riley).

Regarding **claim 17**, A location system comprising (Fig. #1): controlling means for controlling at least one base stations (Fig. #1 / MLC); a first providing means for providing a client application with a measurement regarding geographic location information of at least one mobile station (Fig. #1, C4, L6-15); receiving means for receiving the measurement regarding the geographic location information of the at least one mobile station; transmitting means for transmitting the measurement regarding the geographic location information to a location means for location services (Fig. #1, C1, L23-26); determining means for determining a location estimate based upon the measurement regarding the geographic location (Fig. #1, C2, L43-46); but Vanderspool **fails to teach** to identifying means for identifying suspicious measurements by analyzing a discrepancy between the measurement and the location estimate. However, Riley teaches to determine a number of quality signals with a measurement of signal transmission between the mobile station to base station based on this measurement error estimates can be combined in the navigation –processing algorithm to estimate the error in the determination if each positions.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Vanderspool, such that identifying means for identifying suspicious measurements by analyzing a discrepancy between the measurement and the location estimate, to improve location calculations that are based on location measurement data, and to reduce the location error and check for to throw out bad measurements.

Regarding **claim 18**, the combination of Vanderspool and Riley teach in claim 17, Vanderspool further teaches comprising a providing location services for a plurality of client applications (C2, 60-64 of Vanderspool).

Regarding **claim 19**, the combination of Vanderspool and Riley teach in claim 17, Vanderspool further teaches comprising a providing a gateway mobile location center for providing said client application (C2, 29-34 / MLC=LSN=Gateway).

Regarding **claim 20**, the combination of Vanderspool and Riley teach in claim 12, Vanderspool further teaches wherein the determining means comprises a calculating means for calculating the location estimate based upon a measurement regarding a position of the at least one mobile station relative to the at least one base station (C2, 39-46 of Vanderspool).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. (US 2003/0125045)
2. (US 2003/0125045)
3. (US 2003/0125044)
4. (US 2001/0022558)
5. (US 6832090)
6. (US 6826385
7. (US 2002/0168988)
8. (US 2003/0162548)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Vu whose telephone number is (571) 272-8131. The examiner can normally be reached on 8:00am - 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Trost can be reached on 571-272-7872. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Vu

Stephen D'Agosta
Primary Examiner
6-14-05